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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/900,738	07/06/2001	Tatsuya Shimoda	9319G-000248	4550

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EXAMINER

PERRY, ANTHONY T

ART UNIT PAPER NUMBER

2879

DATE MAILED: 09/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/900,738

Applicant(s)

SHIMODA ET AL.

Examiner

Anthony T Perry

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/06/02 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 recites the limitation "the organic EL layer" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 5 and 9-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Swirbel et al. (US 6,091,194).

Regarding claim 5, Fig. 2 of the Swirbel reference discloses an organic EL display 10 which uses an organic element 40 in a display portion. Microstructures made with drive circuits 24 for the organic EL element are set at positions corresponding to pixels of a first substrate 20. An emissive layer containing the organic EL layer is formed on the second substrate 30 and the first and second substrates are stuck together.

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Regarding claim 9, Fig. 2 of the Swirbel reference discloses an electro-optic device 10 which uses electro-optic elements in a display portion. Microstructures made with drive circuits 24 for the electro-optic elements are set at positions corresponding to pixels of a first substrate 20. An electro-optic layer 40 is formed on the second substrate 30 and the first and second substrates are stuck together.

Regarding claim 10, Swirbel teaches that such electro-optic devices are commonly used in electronic devices (col. 1, lines 13-14).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swirbel et al. (US 6,091,194).

Regarding claim 1, Swirbel teaches a manufacturing method for a display that uses an organic EL element in a display portion (col. 3, line 63 – col. 4, line 50). The method involves respectively preparing a circuit substrate 20 and a transparent substrate 30 and then sticking them together (Fig. 2). The circuit substrate 20 is made with drive circuits 24 for the organic EL element 40 set at positions corresponding to pixels and with wiring 27 formed on either its top or bottom surface (col. 4, line 9-13). The transparent substrate 30 with a transparent electrode layer 32 common with the pixels laminated on the surface. The organic EL layer is laminated on the

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upper surface of the transparent electrode layer. Swirbel teaches that the cathode layer 22 is laminated on the circuit substrate rather than the transparent substrate.

It is noted that the applicant's specific intermediate location of the cathode layer, does not solve any of the stated problems or yield any unexpected result that is not within the scope of the teachings applied. Therefore it is considered to be a matter of choice, which a person of ordinary skill in the art would have found obvious to select either substrate (circuit or transparent) to deposit the cathode layer.

The substrates are stuck together with the cathode layer and the wiring in between the two substrates.

Regarding claim 6, Swirbel discloses an organic EL display that uses an organic EL element in a display portion (see Fig. 2). The circuit substrate 20 is made with drive circuits 24 for the organic EL element 40 set at positions corresponding to pixels and with wiring 27 formed on its top and/or bottom surfaces (col. 4, line 9-13). The transparent substrate 30 with a transparent electrode layer 32 common with the pixels laminated on the surface. The organic EL layer is laminated on the upper surface of the transparent electrode layer.

Swirbel teaches that the cathode layer 22 is laminated on the circuit substrate rather than the transparent substrate. However, it is noted that the applicant's specific intermediate location of the cathode layer, does not solve any of the stated problems or yield any unexpected result that is not within the scope of the teachings applied. Therefore it is considered to be a matter of choice, which a person of ordinary skill in the art would have found obvious to select either substrate (circuit or transparent) for deposition of the cathode layer.

The substrates are stuck together with the cathode layer and the wiring in between the two substrates.

Regarding claim 8, Swirbel teaches a manufacturing method for a display that uses electro-optic elements in a display portion (col. 3, line 63 – col. 4, line 50). The method involves respectively preparing a circuit substrate 20 and a transparent substrate 30 and then sticking them together (Fig. 2). The circuit substrate 20 is made with drive circuits 24 for the electro-optic elements 40 set at positions corresponding to pixels. The electro-optic elements 40 are formed on the transparent substrate at positions corresponding to pixels. Swirbel teaches the substrates being stuck together with the side of the transparent substrate with the electro-optic elements formed thereon facing towards the inside.

Swirbel does not specifically teach the side of the circuit substrate with the driving circuits formed thereon facing the inside. However, it is noted that the applicant's specific arrangement of the driving circuits being on the side facing towards the inside does not solve any of the stated problems or yield any unexpected result that is not within the scope of the teachings applied. Therefore it is considered to be a matter of choice, which a person of ordinary skill in the art would have found obvious to select either side of the substrate (inside or outside) for the drive circuits as long as they are connected to their respective electrodes.

Claims 2 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swirbel et al. (US 6,091,194) in view of Miyamoto et al. (US 6,039,896).

Regarding claims 2 and 7, Swirbel teaches connecting the substrates with a conductive epoxy which is dispensed on each cathode electrode (col. 4, lines 51-56). Swirbel does not specifically teach the use of an anisotropic conductive paste for sticking together the two

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substrates. However, Miyamoto teaches that it is well known to use anisotropic adhesives in flat panel displays for connecting components of such displays. Anisotropic films can be placed along the entire surface of the substrates and its components without the risk of a short-circuit between adjacent terminals in the fine circuits (col. 1, lines 15-32). Instead of selectively printing the conductive adhesive on each cathode electrode as taught by Swirbel, use can be made of an anisotropic film covering the entire substrate and its components, since such films are only conductive in one direction. Accordingly, one of ordinary skill in the art would have found it obvious to use an anisotropic adhesive for connecting the two substrates taught by Swirbel so as to simplify the method of connecting the substrates.

Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swirbel et al. (US 6,091,194) in view of Miyamoto et al. (US 6,039,896) and further in view of Sharpless et al (US 5,309,060).

Regarding claims 3-4, neither Swirbel nor Miyamoto specifically teach the method of preparing a roll of the substrates and unrolling them while pressing with a pressing roller from front and rear surfaces to connect the two substrates. However, Sharpless teaches such a method used in manufacturing an EL display device. Sharpless teaches using flexible substrates, preparing them, and then rolling them up (col. 3, lines 23-32). The prepared substrate rolls 20,30 are then unrolled while inserting an adhesive 40, and pressed with a pressing roller 56,58 from front and rear surfaces to thereby stick together the two substrates (see Fig. 6 and col. 4, lines 3-16). The stuck together product is then cut to a desired length (col. 4, lines 17-32). This method allows for a simpler more cost efficient method of manufacturing EL display devices.

Accordingly, one of ordinary skill in the art would have found it obvious at the time the

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invention was made to prepare a roll of each substrate and then unroll them while inserting an adhesive in between them and pressing together with a pressing roller and then cutting the stuck together process to a desired length in order to simplify and reduce manufacturing costs.

The reason for combination given in the rejection of claim 2 applies.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Ootsuki et al. (US 6,341,994) ;Murakami (US 5,483,120) ; Butler et al. (US 3,161,797); and Ishii et al. (US 6,551,724).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Anthony Perry* whose telephone number is (703) 305-1799. The examiner can normally be reached between the hours of 9:00AM to 5:30PM Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (703) 305-4794. The fax phone number for this Group is (703) 308-7382.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [**Anthony.perry@uspto.gov**].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly

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signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.



Anthony Perry
Patent Examiner
Art Unit 2879
September 2, 2003

